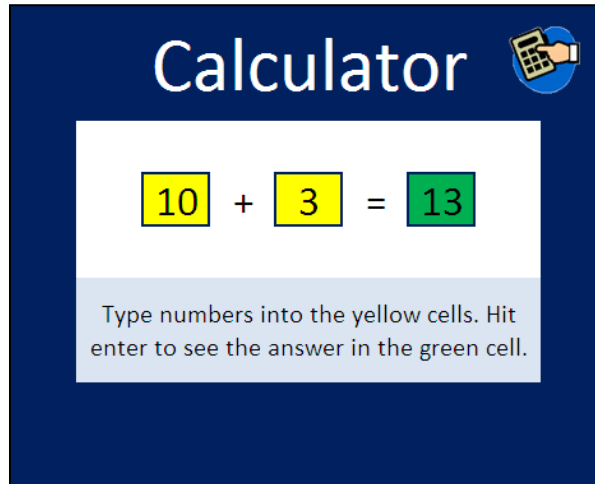


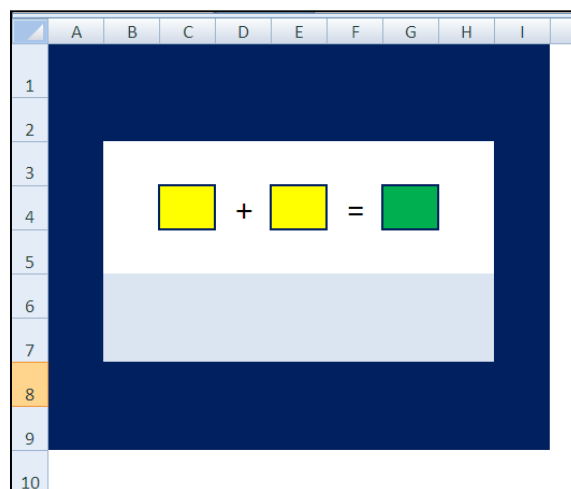
1) SIMPLE CALCULATOR

Create a simple calculator to do any kind of calculations you want. Here's one that simply adds two numbers.



STEP 1: SET UP THE TABLE

- Open Excel, and set up the sheet as shown below.
- The width of the columns is 5.00. The height of the rows is 24
- Use your choice of fill colors and font sizes.
- In this example, cells B1:H2 have been merged and centered with a font size of 36.
- The font size of cells C4:G4 is 20.
- Cells B6:H7 have been merged and centered with a font size of 12.
- Add clipart of your choice.



STEP 2: ENTER FORMULAS

In cell G4, enter the formula: **=C4+E4**.

STEP 3: ENTER INSTRUCTIONS

Enter the following instructions into cell B6.

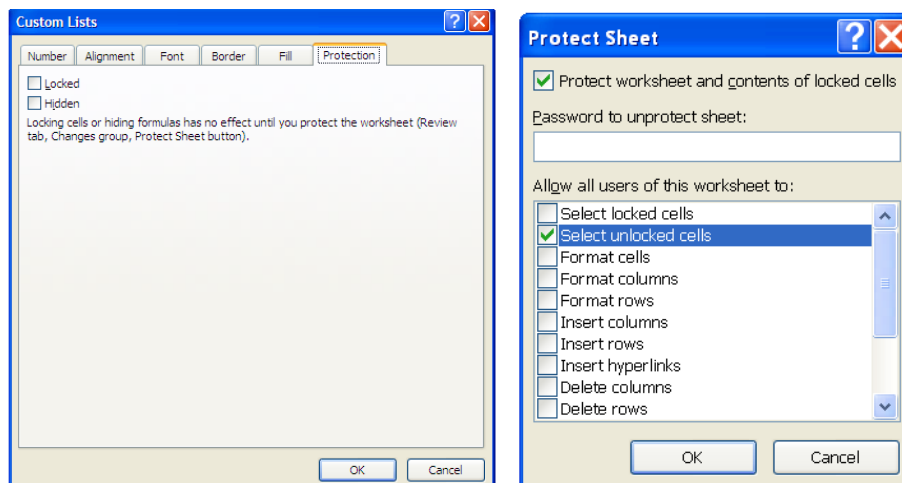
“Type numbers into the yellow cells. Hit enter to see the answer in the green cell.”

STEP 4: USE YOUR CALCULATOR

Your Calculator is now ready to use. Enter different numbers to make sure it's working correctly.

STEP 5: PROTECT THE SHEET

- Select cells C4 and E4 (Hint: Hold down the Ctrl while selecting the cells). RIGHT CLICK>FORMAT CELLS>PROTECTION.
- Make sure that the “Locked” and “Hidden” boxes are unchecked as shown in the illustration.
- Then click OK.



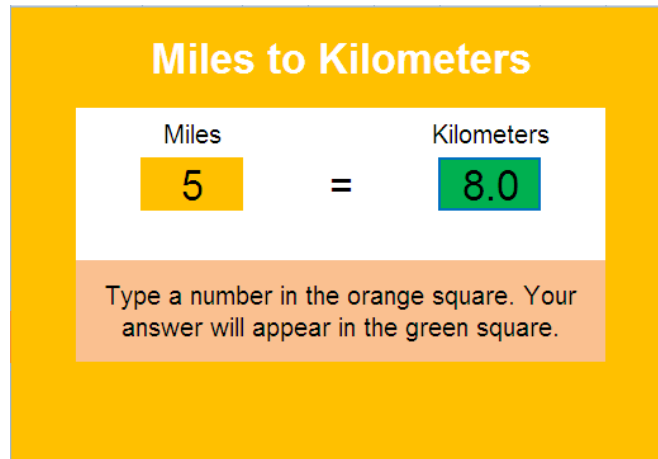
- Click on REVIEW>CHANGES>PROTECT SHEET.
- Make sure that “Select Locked Cells” is NOT selected.
- You can select a password or leave it blank.
- Click OK.

STEP 6: CHALLENGE

Try changing the formula in cell G4, so you can make your calculator subtract (-), multiply (*) or divide (/).

2) MILES TO KILOMETERS CONVERTER

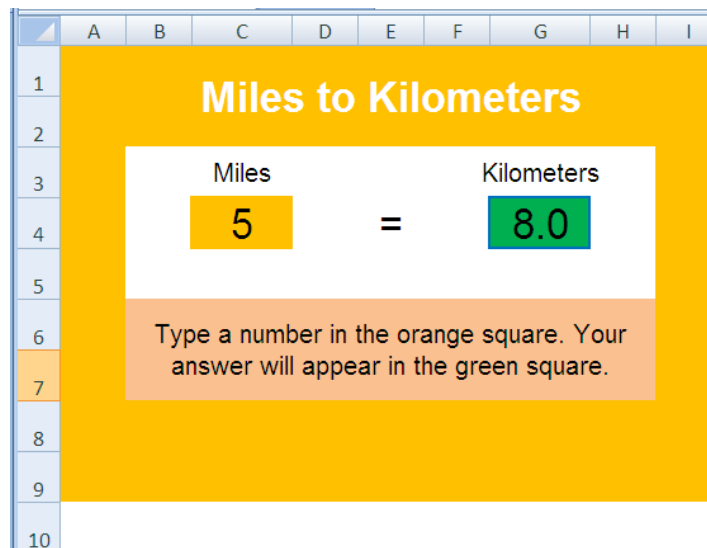
Create a gadget that converts miles to kilometers.



A yellow rectangular gadget titled "Miles to Kilometers". Inside, there is a white box with "Miles" and "Kilometers" labels. Below "Miles" is an orange square containing the number "5". Below "Kilometers" is a green square containing the number "8.0". An equals sign "=" is between the two squares. Below the white box is an orange box with the text: "Type a number in the orange square. Your answer will appear in the green square."

STEP 1: SET UP THE TABLE

- Open Excel, and set up the sheet as shown below.
- The width of the columns is 5.00. The height of the rows is 24.
- Cells C and G have a width of 8.00.
- Use your choice of colors and font sizes.
- In this example, cells B1:H2 have been merged and centered with a font size of 20.
- The font size of cells C4:G4 is 20.
- Cells B6:H7 have been merged and centered with a font size of 12.



An Excel spreadsheet with columns A through I and rows 1 through 10. The gadget from the previous image is placed in the center, spanning from row 1 to row 7 and column B to column H. The gadget's title "Miles to Kilometers" is in row 1, column B. The "Miles" label is in row 3, column C. The "Kilometers" label is in row 3, column G. The orange square with "5" is in row 4, column C. The green square with "8.0" is in row 4, column G. The instruction text is in row 6, column B. The spreadsheet grid lines are visible, and the gadget is centered within the grid.

STEP 2: ENTER FORMULAS

In cell G4, enter the formula: **=C4*1.609344**

STEP 3: ENTER INSTRUCTIONS

Enter the following instructions into cell B6.

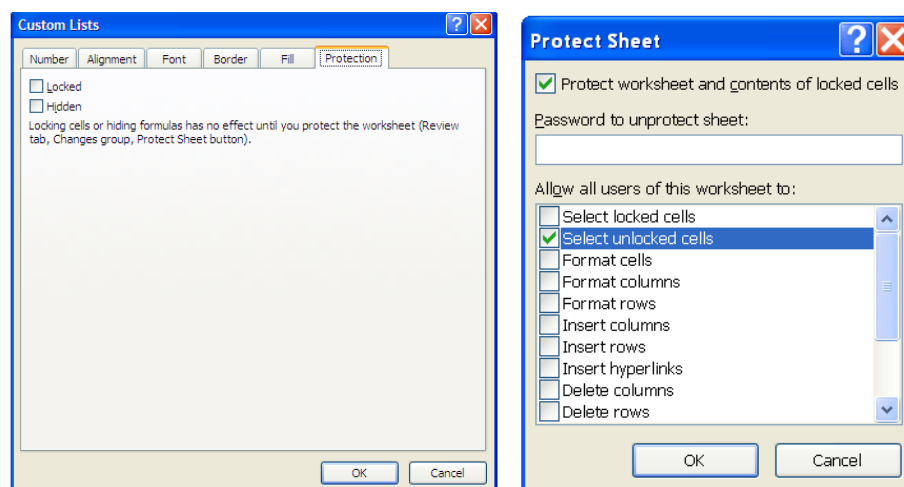
“Type a number in the orange square. Your answer will appear in the green square.”

STEP 4: USE YOUR CALCULATOR

Your Calculator is now ready to use. Enter different numbers to make sure it's working correctly.

STEP 5: PROTECT THE SHEET

- Select cell C4. RIGHT CLICK>FORMAT CELLS>PROTECTION.
- Make sure that the “Locked” and “Hidden” boxes are unchecked as shown in the illustration.
- Then click OK.



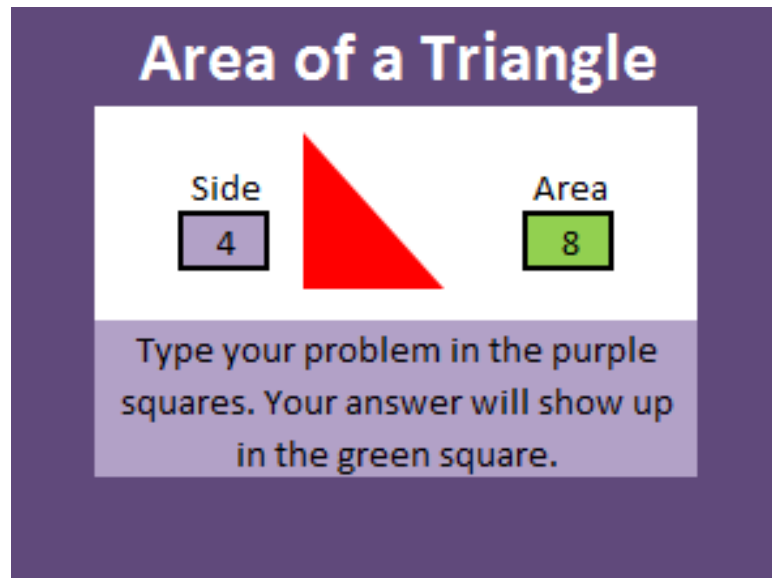
- Click on REVIEW>CHANGES>PROTECT SHEET.
- Make sure that “Select Locked Cells” is NOT selected.
- You can select a password or leave it blank.
- Click OK.

STEP 6: CHALLENGE

Try making a gadget that converts kilometers to miles, Celsius to Fahrenheit, kilos to pounds, etc.

3) AREA OF A TRIANGLE CALCULATOR

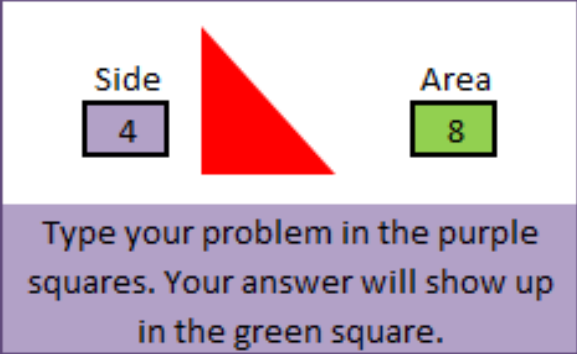
Create a gadget that calculates the area of a right triangle.



The calculator interface is titled "Area of a Triangle" in a large, bold, white font on a dark purple background. Below the title, there is a white rectangular area containing a red right-angled triangle. To the left of the triangle is a label "Side" above a purple square input field containing the number "4". To the right of the triangle is a label "Area" above a green square output field containing the number "8". Below this white area, there is a purple rectangular box with white text that reads: "Type your problem in the purple squares. Your answer will show up in the green square."

STEP 1: SET UP THE TABLE

- Open Excel, and set up the sheet as shown below.
- The width of the columns is 5.00. The height of the rows is 24.
- Cells C and G have a width of 8.00.
- Use your choice of fill colors and font sizes.
- In this example, cells B1:H2 have been merged and centered with a font size of 20.
- The font size of cells C5:G5 is 20.
- Cells B8:H9 have been merged and centered with a font size of 12.

| | A | B | C | D | E | F | G | H | I |
|----|--|---|---|---|---|---|---|---|---|
| 1 | Area of a Triangle | | | | | | | | |
| 2 | | | | | | | | | |
| 3 |  | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |

STEP 2: ENTER FORMULAS

In cell G4, enter the formula: **=C4^2/2**

STEP 3: ENTER INSTRUCTIONS

Enter the following instructions into cell B8.

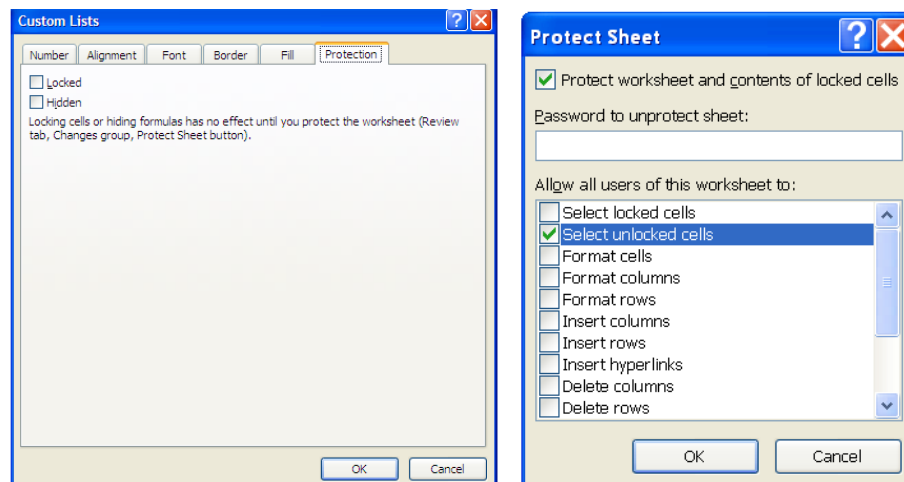
“Type the length of one side of the square in the purple cell. Your answer will appear in the green square.”

STEP 4: USE YOUR CALCULATOR

Your Calculator is now ready to use. Enter different numbers to make sure it's working correctly.

STEP 5: PROTECT THE SHEET

- Select cell C5. RIGHT CLICK>FORMAT CELLS>PROTECTION.
- Make sure that the “Locked” and “Hidden” boxes are unchecked as shown in the illustration.
- Then click OK.



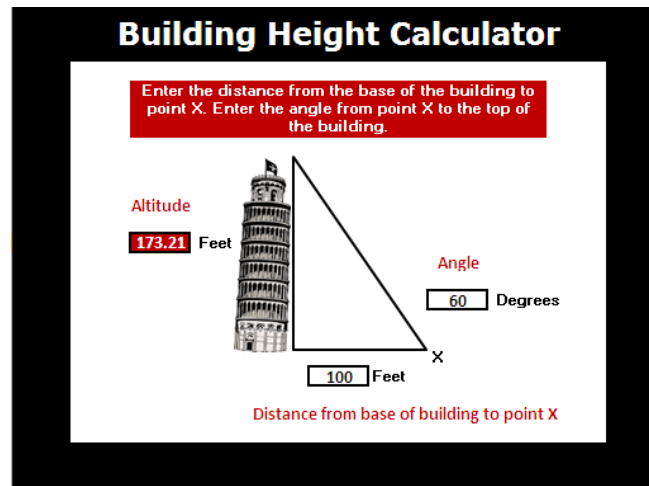
- Click on REVIEW>CHANGES>PROTECT SHEET.
- Make sure that “Select Locked Cells” is NOT selected.
- You can select a password or leave it blank.
- Click OK.

STEP 6: CHALLENGE

Try making a gadget that finds the perimeter of a triangle or the surface area of a pyramid.

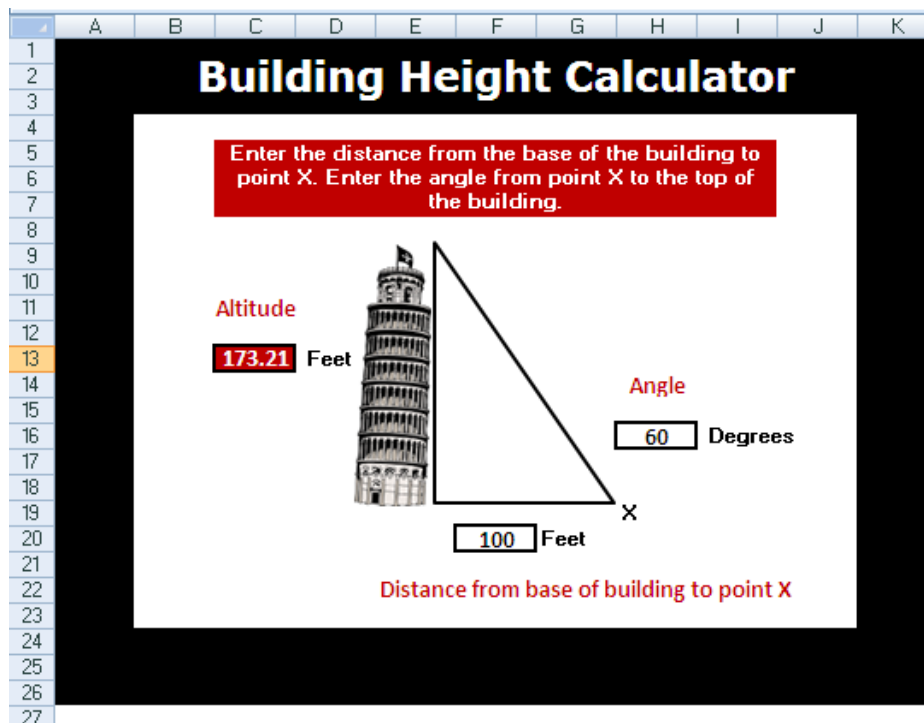
4) BUILDING HEIGHT CALCULATOR

Create a gadget that calculates the height of a building.



STEP 1: SET UP THE TABLE

- Open Excel, and set up the sheet as shown below.
- The width of the columns is 8.00. The height of the rows is 15.
- Use your choice of fill colors and font sizes.
- Find some clipart to use for your building.



STEP 2: ENTER FORMULAS

To calculate the height of the building, you need to know the distance from the base of the building to point X, and you need to know the angle at point X. Then, you can use the Tangent to calculate the side of the triangle the represents the height of the building.

In cell C13, enter the formula: **=SUM(F20*(TAN(RADIANS(H16))))**

STEP 3: ENTER INSTRUCTIONS

Enter the following instructions into cell B8.

“Enter the distance from the base of the building to point X. Enter the angle from point X to the top of the building.”

STEP 4: USE YOUR CALCULATOR

Your Calculator is now ready to use. Enter different numbers to make sure it's working correctly.

STEP 5: PROTECT THE SHEET

Protect the sheet so cells H16 and F20 are the only cells the user can access.

STEP 6: CHALLENGE

Try making a gadget that calculates the height of a tree or the altitude of a model rocket.